What Is Claimed Is:

1. A cooling apparatus comprising:

a take out tube, said take out tube comprising:

a closed end;

an open end;

a fluid inlet;

a fluid outlet;

at least one fluid channel for circulating fluid from said fluid inlet to said fluid outlet;

a first coupling on an outside surface of said take out tube; and

a cooling sleeve, said cooling sleeve comprising:

an inlet;

a plurality of holes;

at least one channel fluidly connecting said inlet to said plurality of holes; and

a second coupling on an inside surface of said cooling sleeve;

said first and second couplings cooperating to couple said take out tube to said cooling sleeve; and

said plurality of holes positioned beyond said open end of said take out tube when said take out tube and said cooling sleeve are coupled.

2. The cooling apparatus according to claim 1, said take out tube positioned inside said cooling sleeve when coupled.

3. The cooling apparatus according to claim 2, further comprising a seal operative to seal an area between said take out tube and said cooling sleeve.

4. The cooling apparatus according to claim 2, wherein said first coupling and said second coupling are interlockable threads.

5. The cooling apparatus according to claim 2, wherein said first coupling and said second coupling comprise an over center lock.

6. The cooling apparatus according to claim 2, wherein said first coupling and said second coupling are a quick coupling.

7. The cooling apparatus according to claim 2, wherein said first coupling and said second coupling are friction fit.

8. The cooling apparatus according to claim 1, wherein said at least one channel encompasses the entire diameter of said cooling sleeve.

9. The cooling apparatus according to claim 1, wherein said at least one channel comprises a plurality of distinct channels fluidly connecting a plurality of inlets to a plurality of holes.

10. The cooling apparatus according to claim 1, said take out tube further comprising an air passage, said air passage being operative to seat and eject a preform.

11. The cooling apparatus according to claim 1 wherein paid plurality of holes are positioned on an inside surface of said cooling sleeve and wherein said inside surface of said cooling sleeve has a diameter that is larger that the diameter of an inside surface of said take out tube.

12. A method for cooling a preform comprising:

providing a preform and a cooling apparatus, said preform located within a cavity of said cooling apparatus;

introducing a cooled fluid into a take out tube of said cooling apparatus allowing heat transfer between an inner surface of said take out tube and a portion of said preform that makes intimate contact with said inner surface;

introducing a gas into a cooling sleeve of said cooling apparatus allowing heat transfer between said cooled fluid and said gas;

blowing said gas out of at least one hole in said cooling sleeve onto said preform.

13. The method according to claim 12, wherein the step of providing comprises applying a vacuum in the cooling apparatus

14. The method according to claim 12, wherein the step of providing a preform comprises the use of a core to introduce the preform into the cooling apparatus.

15. The method according to claim 12, wherein the step of providing a preform comprises inserting a manufactured preform in the injection mold.

16. The method according to claim 12, wherein the step of providing a preform comprises injection molding said preform within said cooling apparatus.

17. The method according to claim 12, wherein the step of providing a preform comprises inserting a manufactured preform into said cooling apparatus.

18. The method according to claim 12, wherein said preform is a reverse taper style preform.

19. The method according to claim 12, wherein the fluid comprises water.

20. The method according to claim 19, wherein the gas comprises air.

21. The method according to claim 19, wherein the gas comprises a super cooled gas.